

Clear Creek Management Area Asbestos Risk Assessment

SPC Subcommittee on Asbestos
Briefings
February 28 and March 5, 2008



1073743

CCMA Asbestos Risk Assessment

► Purpose of Briefing

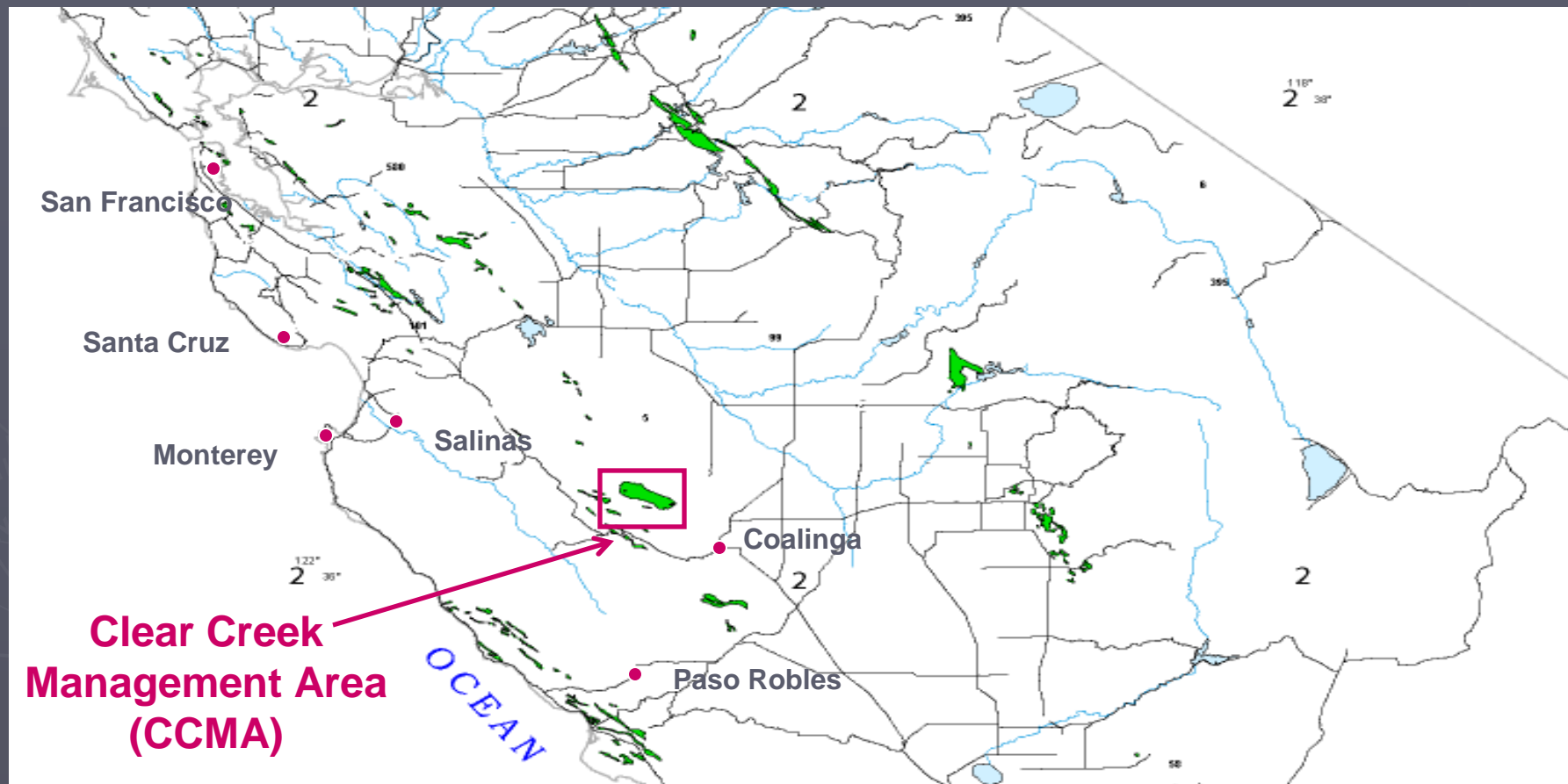
- Overview of CERCLA site-specific assessment
- Recreational and worker asbestos exposures and risks are significant
- Significant stakeholder interest
- Region 9/BLM coordination and outreach
- NEPA and CERCLA involvement

CCMA Asbestos Risk Assessment

► Background

- CCMA covers 75,000 acres in San Benito and Fresno Counties, California
- Includes 31,000 acre outcrop of naturally occurring asbestos (NOA)
- Three asbestos mines operated in Area, including Atlas and Coalinga Asbestos Mines (NPL sites)
- Popular OHV area \approx 50,000 visitors/year

CCMA Asbestos Risk Assessment



CCMA Asbestos Risk Assessment



CCMA Asbestos Risk Assessment

► Background (continued)

■ 1991 Atlas NPL Site Record of Decision (ROD)

- "At this time EPA is not proposing any action in the CCMA. BLM has indicated that it will revise its land use plan for the CCMA in order to minimize airborne asbestos emissions and the threat to public health...In 1992, EPA will evaluate whether BLM's plan is adequate to protect human health and the environment and will publish a public notice of its determination. At that time EPA will decide whether further action under CERCLA in the CCMA is necessary."

CCMA Asbestos Risk Assessment

► Background (continued)

- 1992 EPA Public Notice: Because BLM has not yet released its plan for the CCMA, EPA will remain involved to help ensure protection of public health from asbestos
- Additional BLM Environmental Impact Statements through 1990's and 2000's
- EPA continued objections to OHV use because of health concerns
- CalEPA concern about Atlas Mine NPL Delisting given that CCMA issue not resolved
- 2004 Region 9 begins CCMA exposure and risk assessment
- Current BLM EIS awaiting EPA asbestos risk assessment

CCMA Asbestos Risk Assessment

- ▶ Region 9 Conducted Five Activity-Based Asbestos Sampling Events 2004 to 2005
 - Typical CCMA activities
 - Motorcycle riding, ATV riding, SUV driving and riding, hiking, camping, sleeping in tent, vehicle washing and vacuuming, fence building

Adult
cannister

Child
cannister

Hikers



CCMA Asbestos Risk Assessment

- Child and Adult sampling



6 yr. old

CCMA Asbestos Risk Assessment

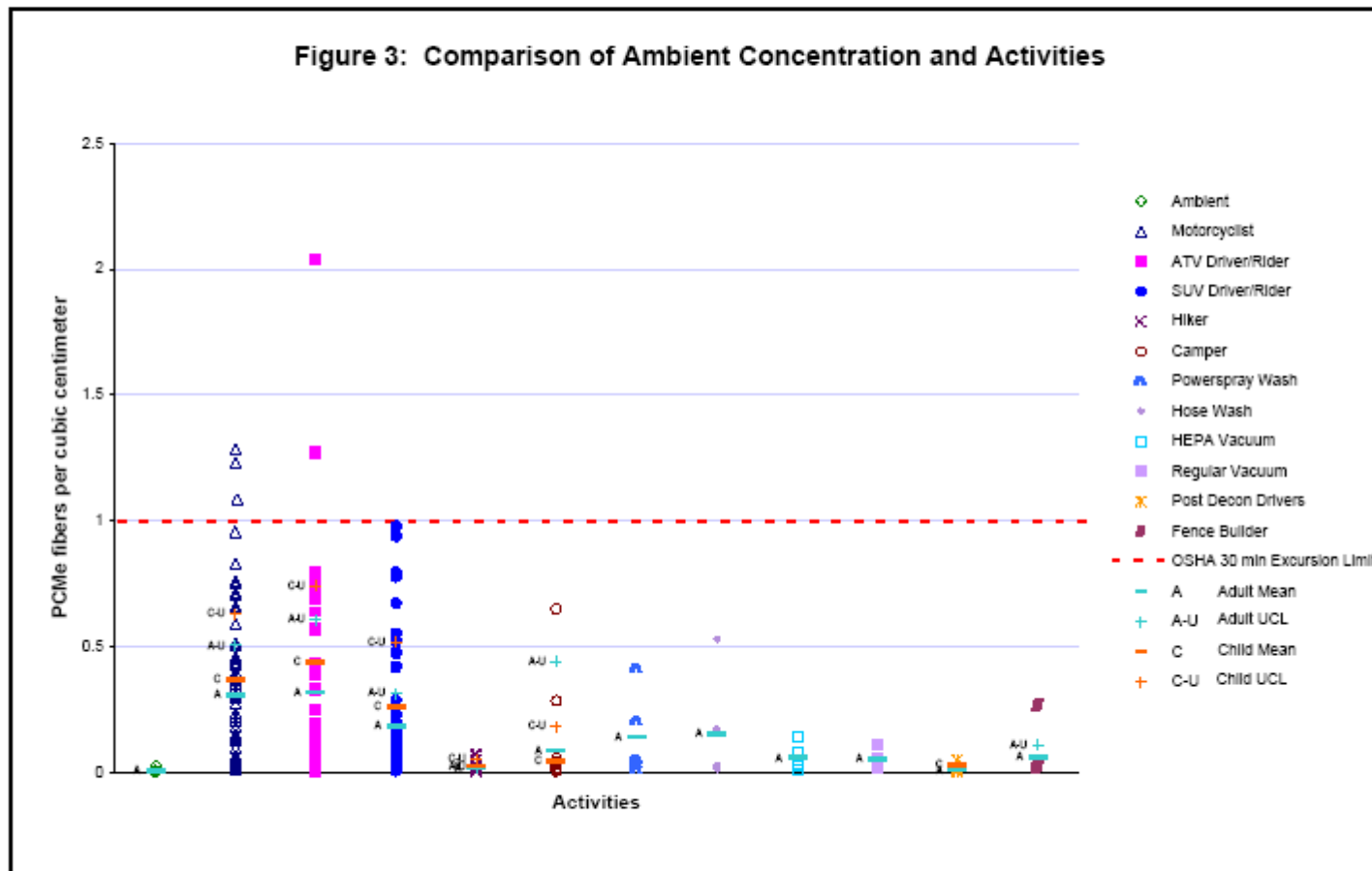
- Lead and Trailing sampling



CCMA Asbestos Risk Assessment

- Exposure Assessment Findings
 - Only PCME fibers used
 - Activity drives the exposure

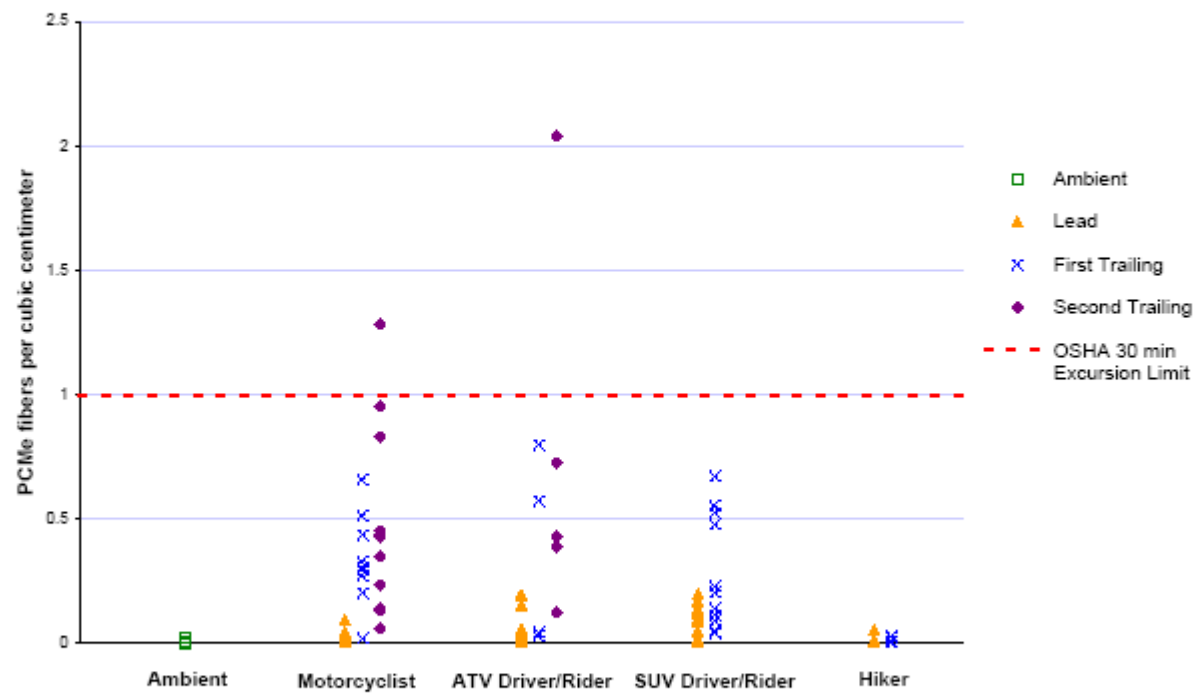
Figure 3: Comparison of Ambient Concentration and Activities



CCMA Asbestos Risk Assessment

- ▶ Exposure Assessment Findings (continued)
 - Only PCME fibers used
 - Activity drives the exposure
 - **Position is important**

Figure 6: Comparison of Different Riding Positions for Adults

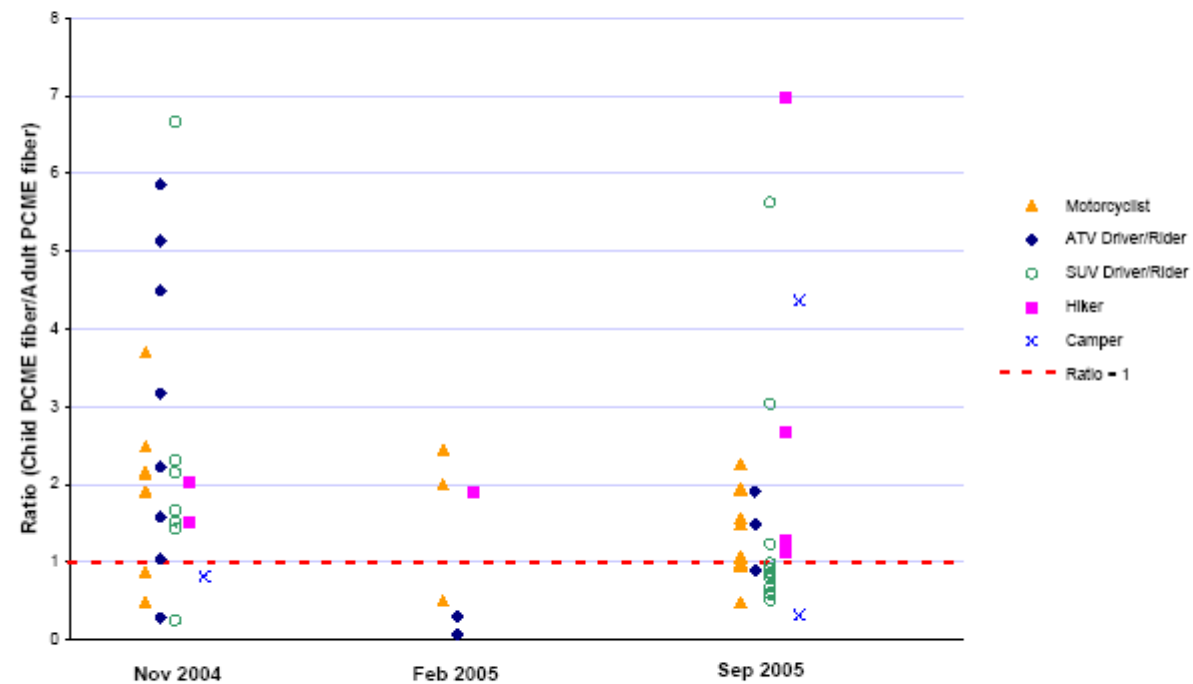


CCMA Asbestos Risk Assessment

► Exposure Assessment Findings (continued)

- Only PCME fibers used
- Activity drives the exposure
- Position is important
- Children are of special concern

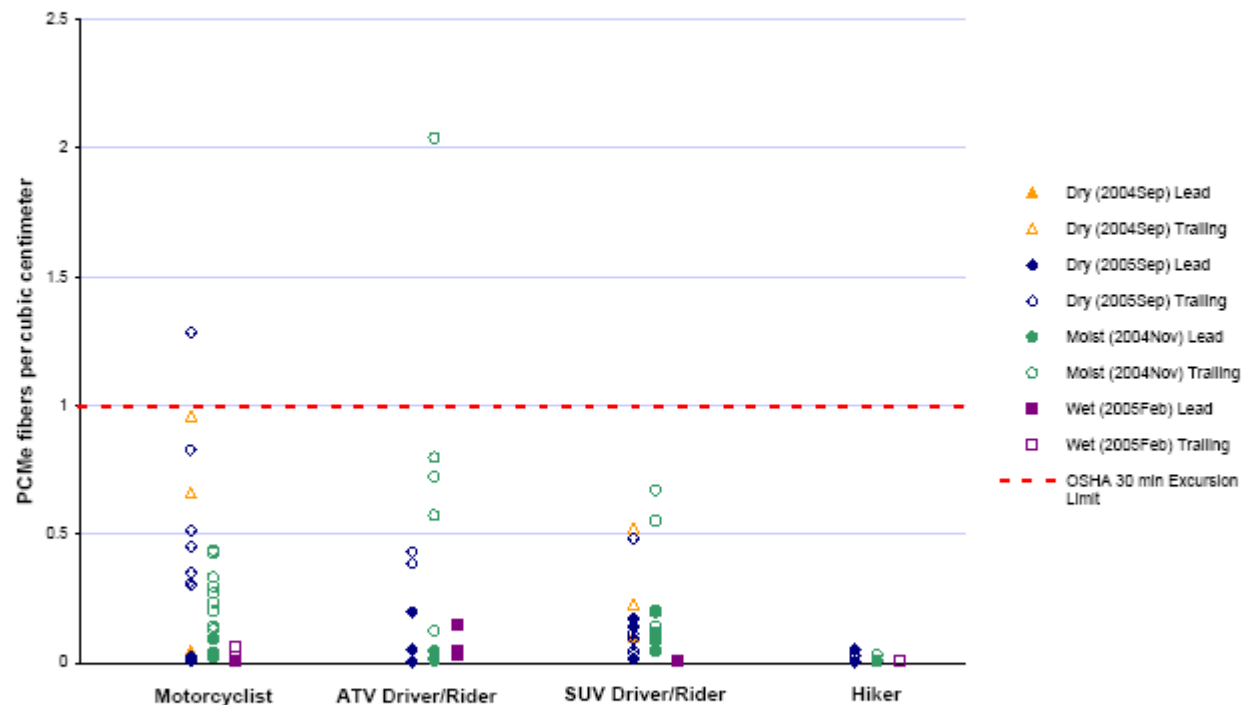
Figure 8: Ratio of Child to Adult Exposure Levels for Each Activity for Each Sampling Date



CCMA Asbestos Risk Assessment

- ▶ Exposure Assessment Findings (continued)
 - Only PCME fibers used
 - Activity drives the exposure
 - Position is important
 - Children are of special concern
 - Wet weather does not eliminate exposure

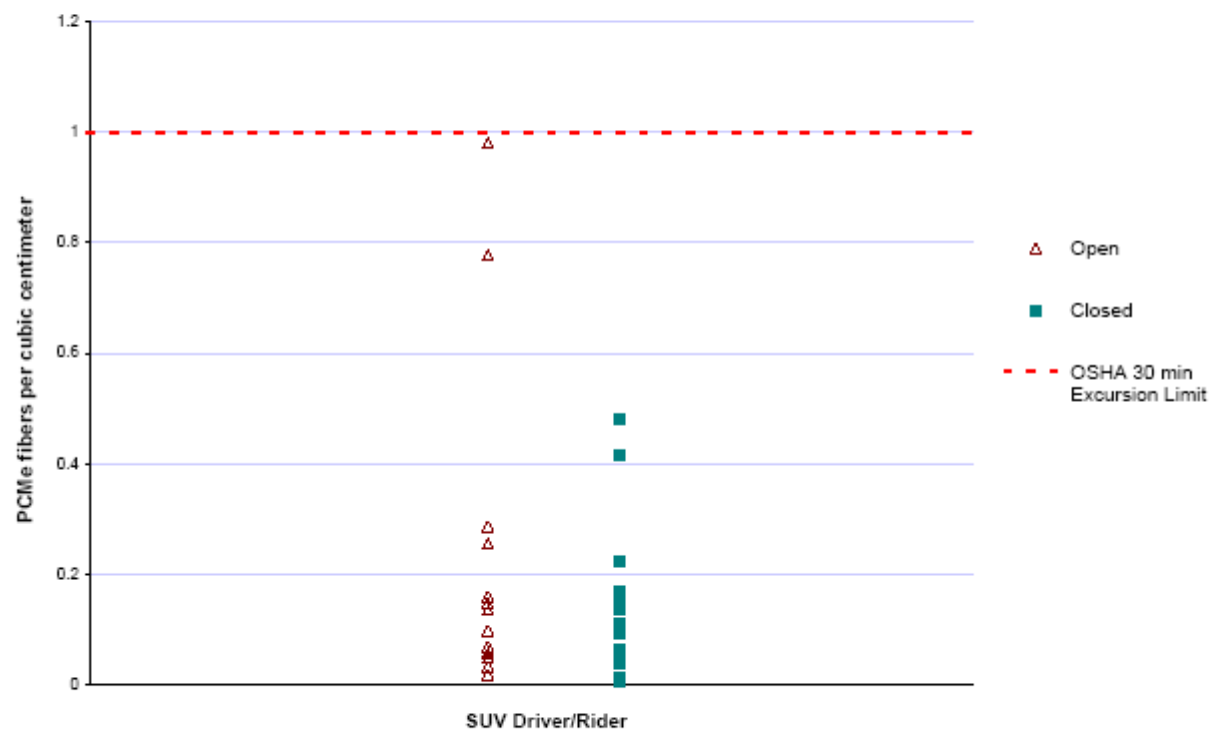
Figure 4: Comparison of Different Weather Conditions for Adult Receptors



CCMA Asbestos Risk Assessment

- ▶ Exposure Assessment Findings (continued)
 - Only PCME fibers used
 - Activity drives the exposure
 - Position is important
 - Children are of special concern
 - Wet weather does not eliminate exposure
 - SUV exposures were significant

**Figure 9: Windows Open vs. Windows Closed Scenarios
(September 2005 - All Positions)**



CCMA Asbestos Risk Assessment

► Exposure Assessment Findings (continued)

- Only PCME fibers used
- Activity drives the exposure
- Position is important
- Children are of special concern
- Wet weather does not eliminate exposure
- SUV exposures were significant
- Amphibole asbestos was detected

CCMA Asbestos Risk Assessment

► Risk Assessment Calculations

- Activity-Based Exposure Concentrations Plugged Into:

► Five Recreational Use Scenarios

- Weekend Rider
- Day Use Rider
- Day Use Hiker
- Weekend Hunter
- Combined Rider/Workday

► Two Worker Scenarios (Developed by BLM)

- Worker ATV Patrol (Lead Rider Only)
- Worker SUV/Truck Patrol (Lead Rider Only)

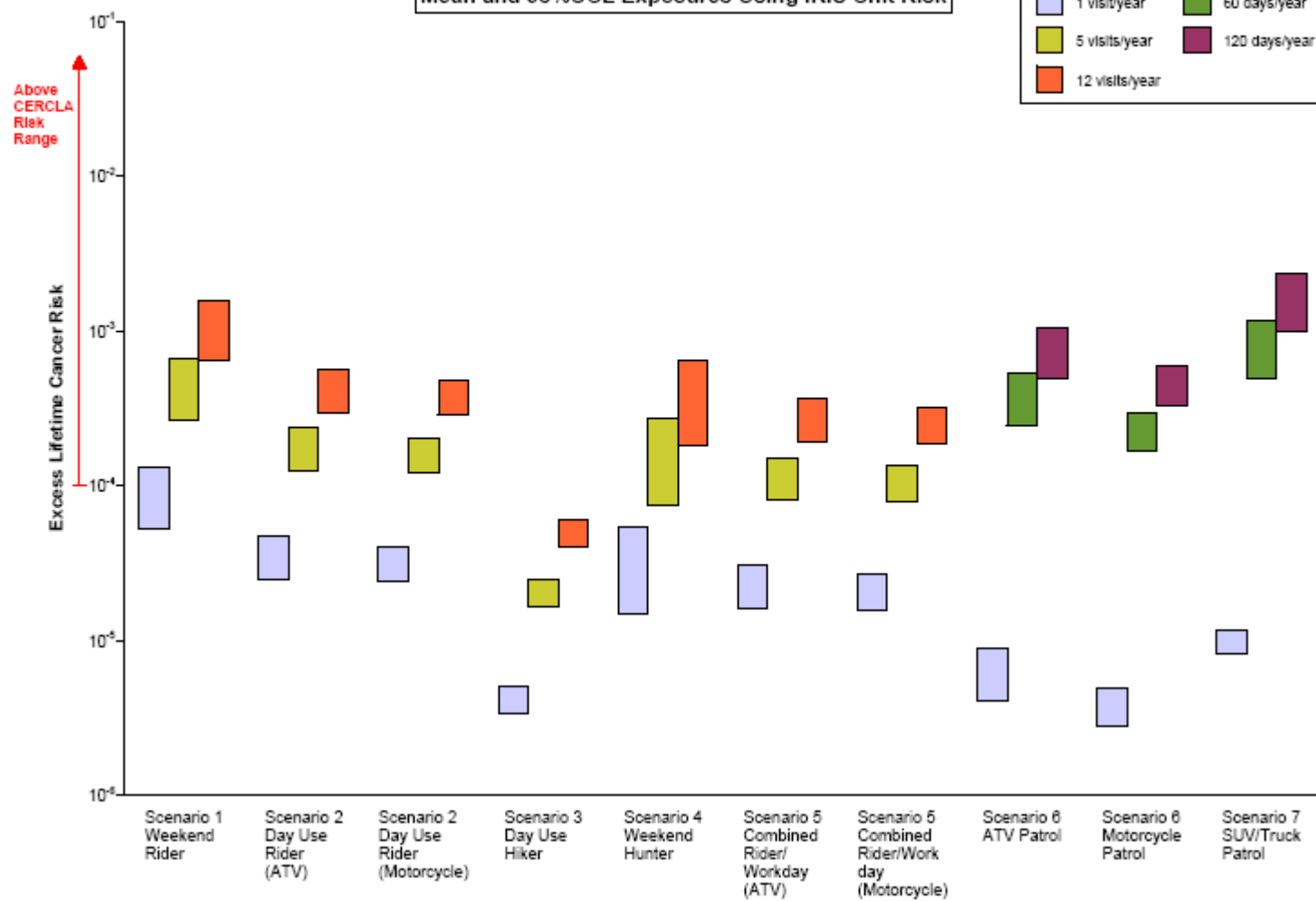
CCMA Asbestos Risk Assessment

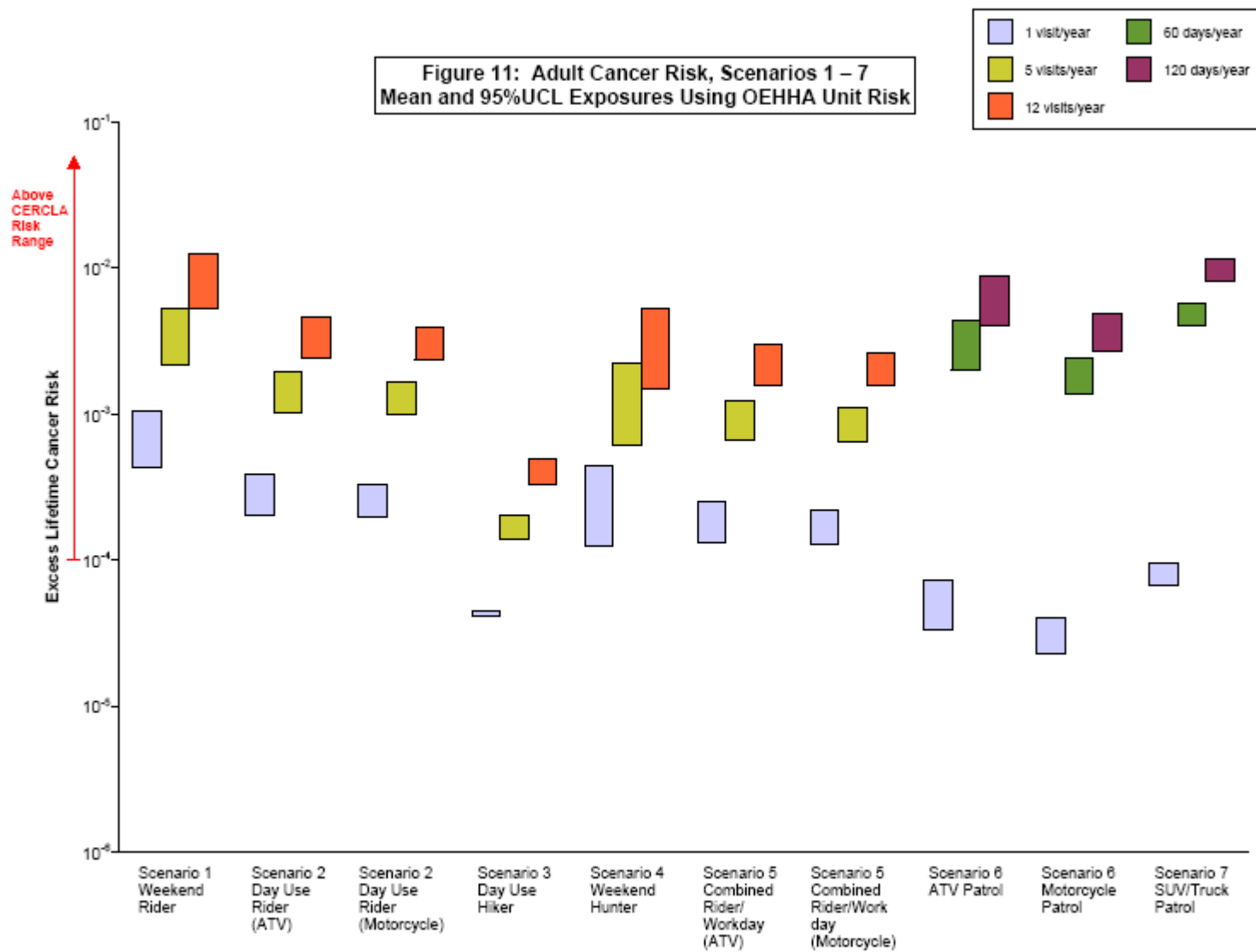
► Risk Assessment Calculations

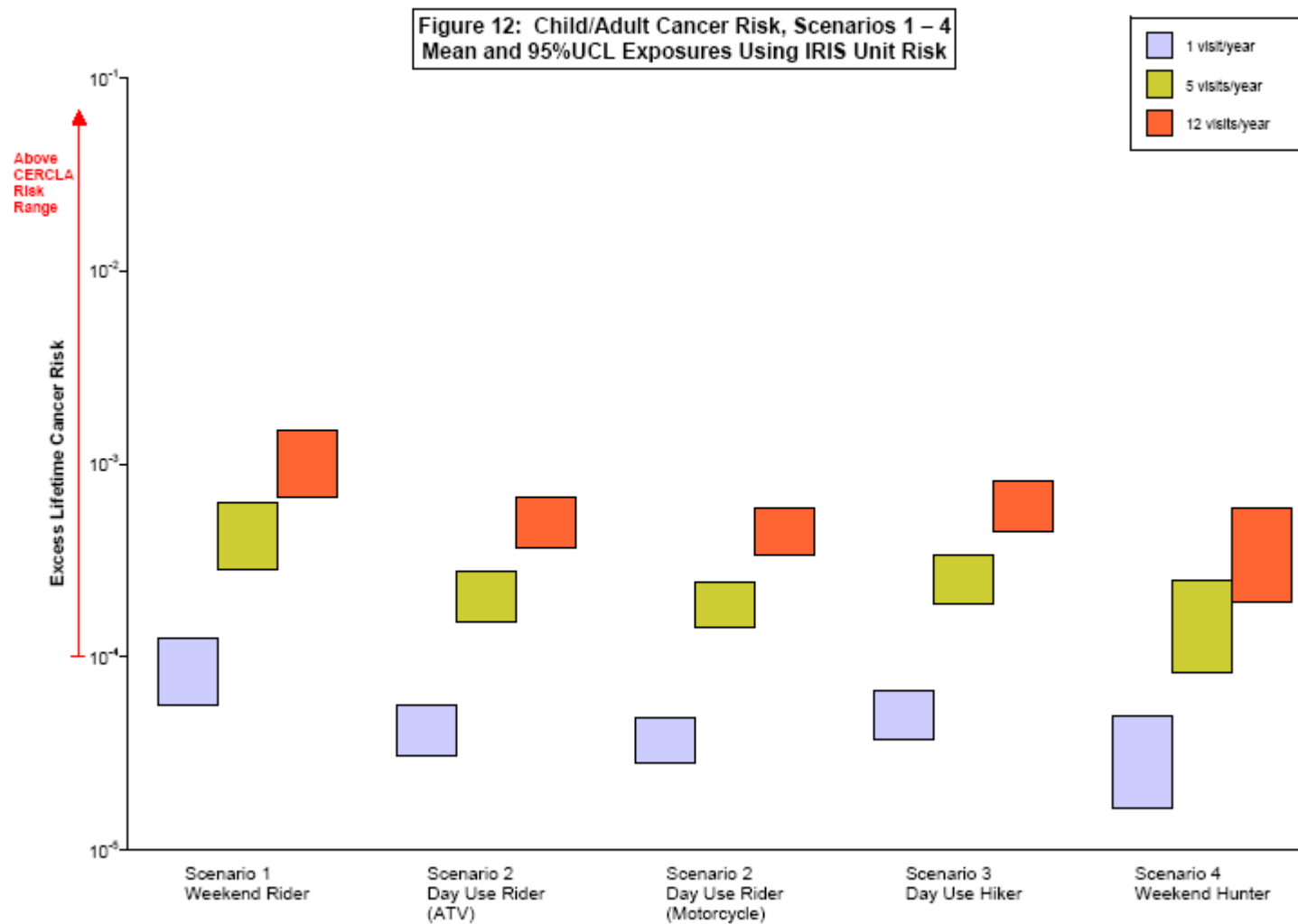
- Only PCME fibers used
- Both IRIS and CalEPA OEHHA risk models used
- One-visit, five-visits, and twelve visits for recreational scenarios
- One-day, sixty days, and one hundred-twenty days for worker scenarios
- Adult (30 year), Child/Adult (12 + 18 = 30 year), Child (12 year) calculations
- Mean concentrations and 95% UCL concentrations

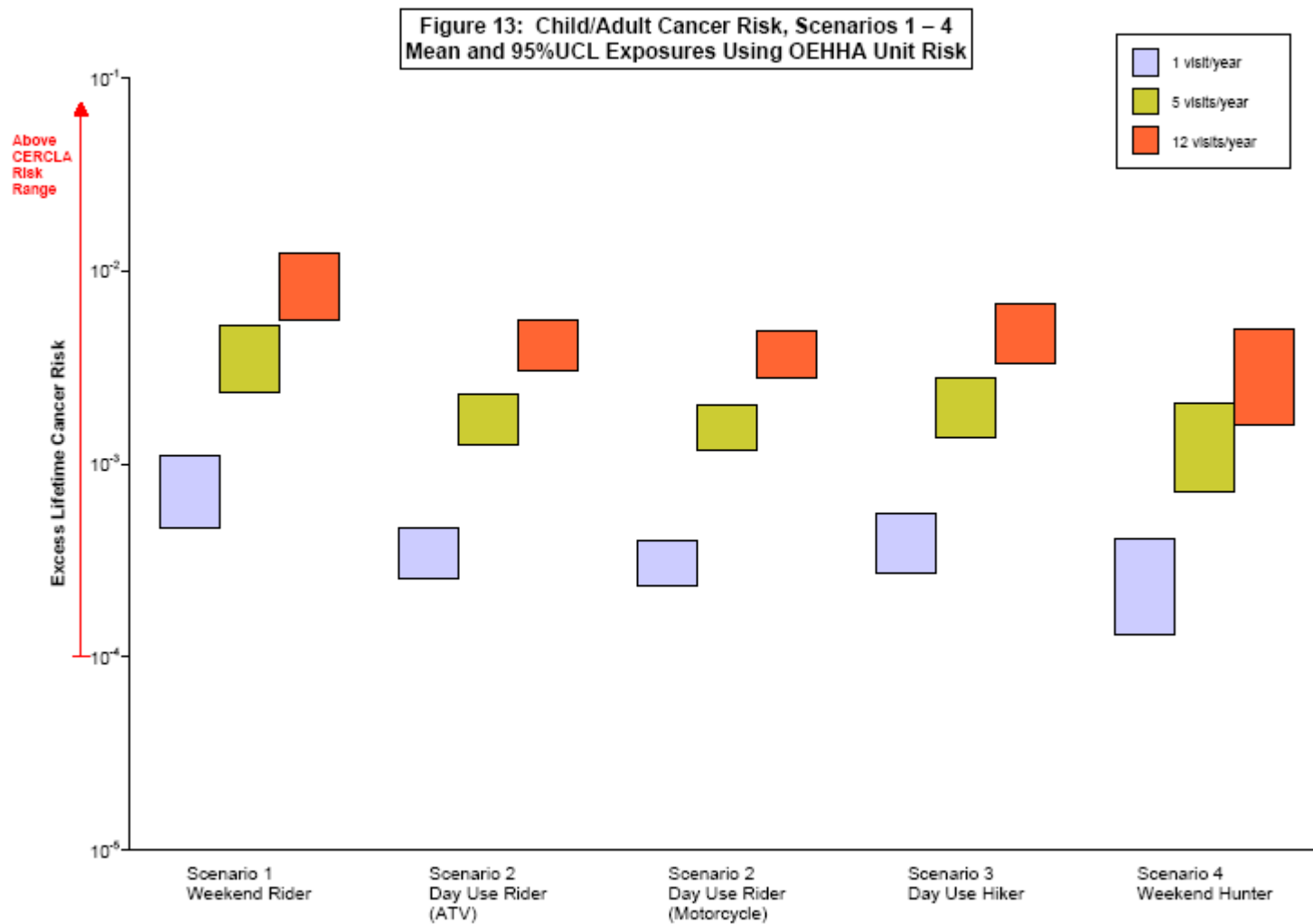
► Many risks above EPA Superfund acceptable range of 10^{-4} to 10^{-6} excess lifetime cancers

**Figure 10: Adult Cancer Risk, Scenarios 1 – 7
Mean and 95%UCL Exposures Using IRIS Unit Risk**

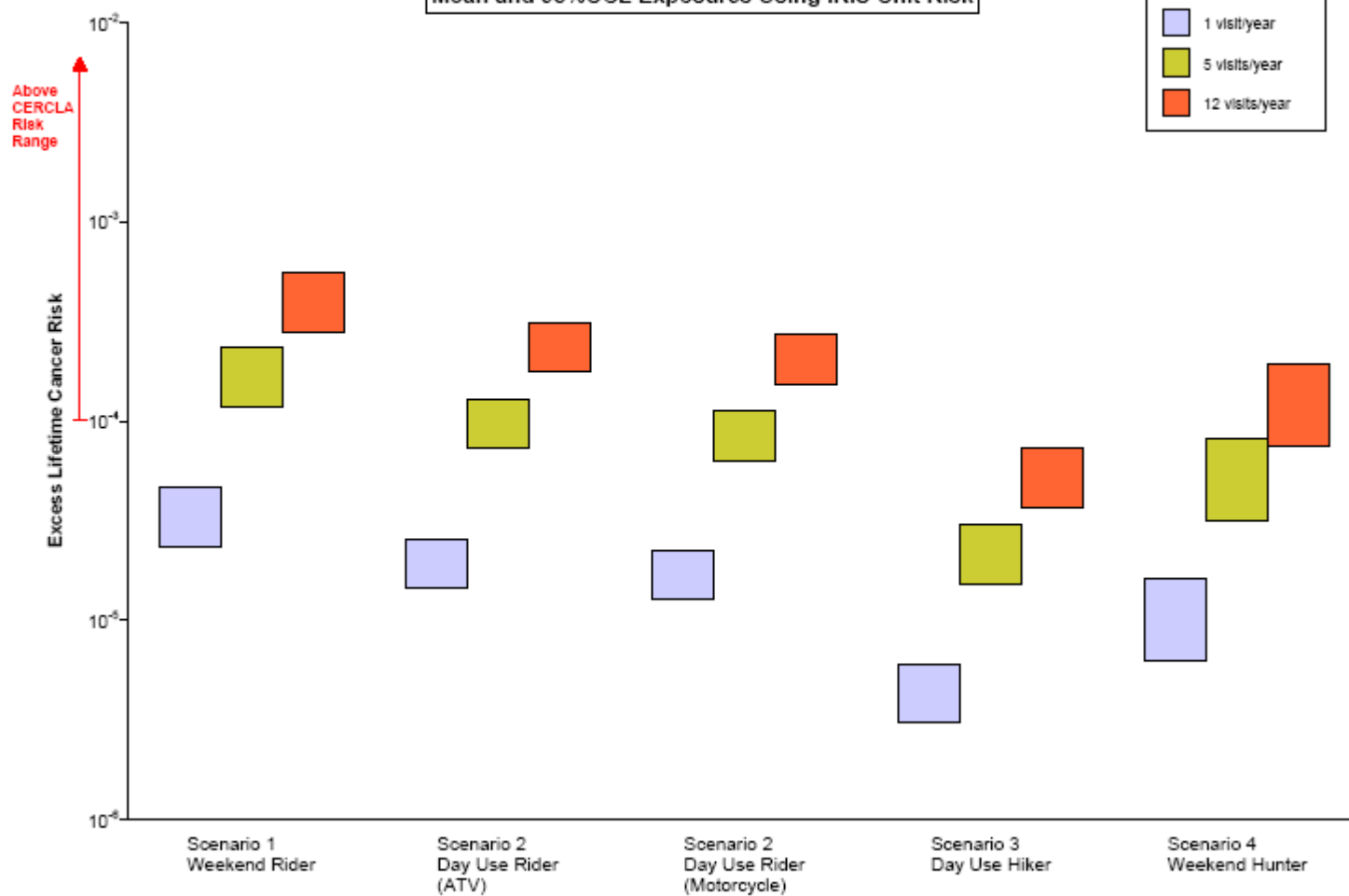


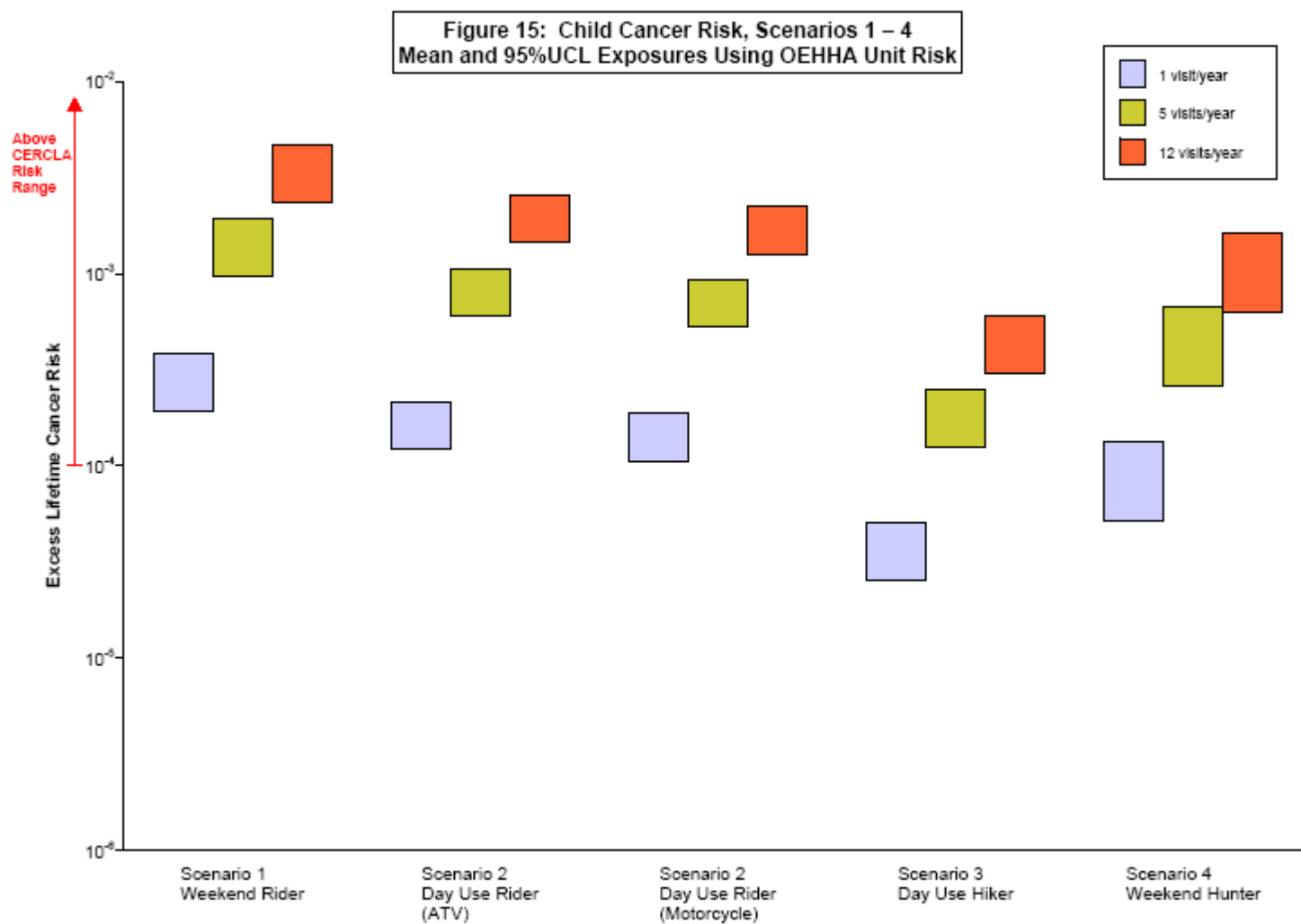






**Figure 14: Child Cancer Risk, Scenarios 1 – 4
Mean and 95%UCL Exposures Using IRIS Unit Risk**





CCMA Asbestos Risk Assessment

- ▶ Uncertainties Related to Assessment of Risk
 - Factors which may cause EPA calculated risk to be overestimated
 - ▶ Primarily chrysotile asbestos exposure
 - Clearance
 - Mesothelioma
 - ▶ Infrequent, episodic recreational exposures may not cause disease

CCMA Asbestos Risk Assessment

- ▶ Uncertainties Related to Assessment of Risk
 - Factors which may cause EPA calculated risk to be underestimated
 - ▶ Non-cancer effects not assessed, but could be more significant to total disease outcome
 - ▶ Early-life exposures may present greater risk
 - ▶ No assessment of “Take-Home” exposure

CCMA Asbestos Risk Assessment

- ▶ Draft Assessment Reviewed by Working Group, California DTSC, BLM
- ▶ Next Steps
 - Receive BLM comments on draft report
 - Release final report
 - Press and Congressional outreach
 - Public meeting
 - Response to comments on risk assessment
 - NEPA cooperating agency activities